Volunteer Lake Assessment Program Individual Lake Reports

HARRISVILLE POND, HARRISVILLE, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	8,064	**Max. Depth (m):**	12.5	**Flushing Rate (yr^{-1})**	8.4
Surface Area (Ac.):	120	**Mean Depth (m):**	4.7	**P Retention Coef:**	0.39
Shore Length (m):	5,300	**Volume (m^3):**	2,264,500	**Elevation (ft):**	1318

TROPHIC CLASSIFICATION

Year	Trophic class
1987	EUTROPHIC
2006	MESOTROPHIC

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

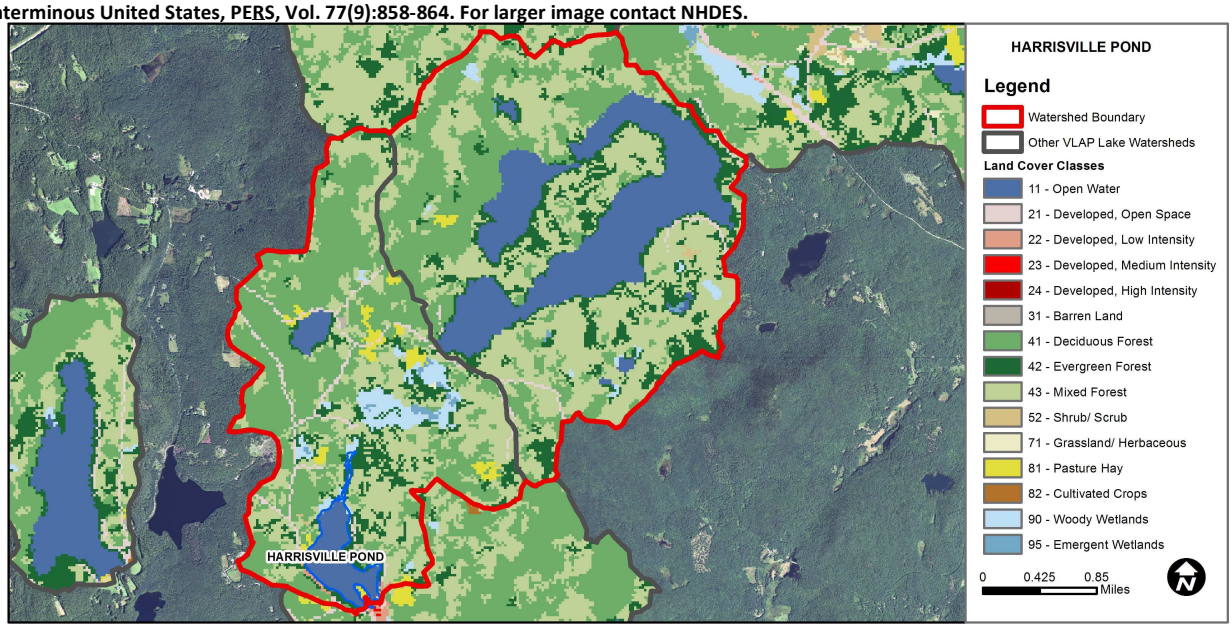
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (mg/L)	Cautionary	< 10 samples and 1 exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

HARRISVILLE LAKE - SUNSET TOWN BEACH	E. coli	Cautionary	One exceedance of single sample criteria but not enough data to calcuate geometric mean. More data needed.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	16.2	Barren Land	0.04	Grassland/Herbaceous	0.02
Developed-Open Space	1.8	Deciduous Forest	30.78	Pasture Hay	1.29
Developed-Low Intensity	0.13	Evergreen Forest	11.7	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	35.33	Woody Wetlands	2.34
Developed-High Intensity	0	Shrub-Scrub	0.08	Emergent Wetlands	0.35

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
HARRISVILLE POND, HARRISVILLE, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** Chlorophyll levels were relatively low and decreased greatly from 2011. Visual observation of the data indicates chlorophyll levels have decreased since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Conductivity levels were low and well below the NH lake median at every station except Cemetary Inlet.
- **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer) phosphorus was relatively low and well below the NH lake median. Hypolimnetic (lower water layer) and Cemetary Inlet phosphorus levels were slightly elevated.
- **TRANSPARENCY:** Transparency improved from 2011 measurements and was greater than the NH lake median.
- **TURBIDITY:** Turbidity was elevated in the Hypolimnion and Cemetary Inlet which may have contributed to the slightly elevated phosphorus levels.
- **PH:** pH levels have historically been lower than desirable and potentially critical to aquatic life.
- **RECOMMENDED ACTIONS:** Increase monitoring frequency to three events per summer to better assess summer and historical water quality trends. Identify sources of elevated conductivity, phosphorus and turbidity in Cemetary Inlet.

Dissolved Oxygen & Temperature Profile

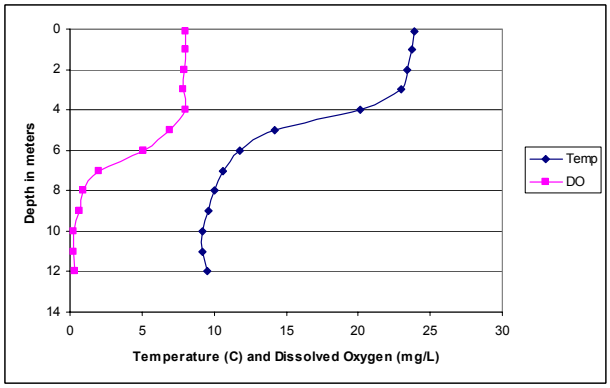


Table 1. 2012 Average Water Quality Data for HARRISVILLE POND

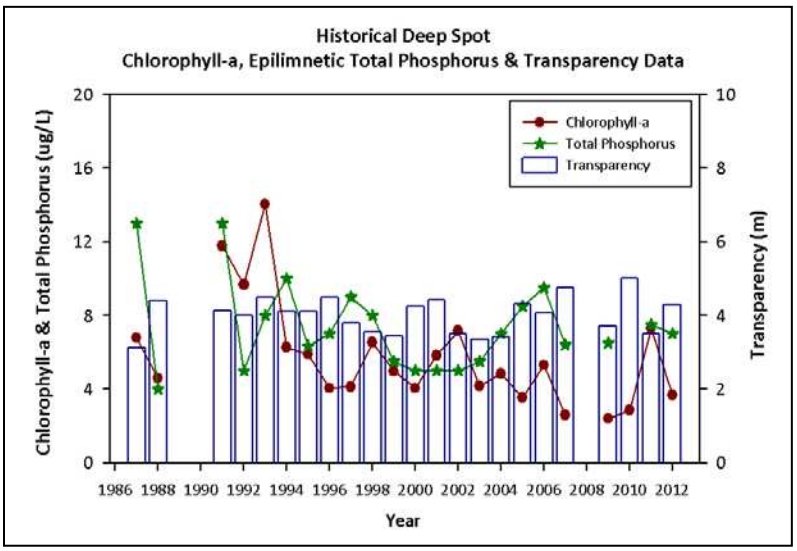
Station Name	Alk.	Chlor-a	Cond.	Total P	Trans.	Turb.	pH
	mg/l	ug/l	uS/cm	ug/l	m	ntu	
					NVS		
Cemetary Inlet			167.0	15		2.88	6.81
Deep Epilimnion	1.7	3.66	21.0	7	4.3	0.58	6.51
Deep Metalimnion			25.0	7		0.99	5.76
Deep Hypolimnion			27.0	12		5.34	5.69
Jane Dunn Inlet			24.5	7		0.35	5.24
Library Outlet			21.0	6		0.53	6.28

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	Ten consecutive years of data collection necessary for trend analysis.
Transparency	N/A	Ten consecutive years of data collection necessary for trend analysis.
Phosphorus (epilimnion)	N/A	Ten consecutive years of data collection necessary for trend analysis.



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